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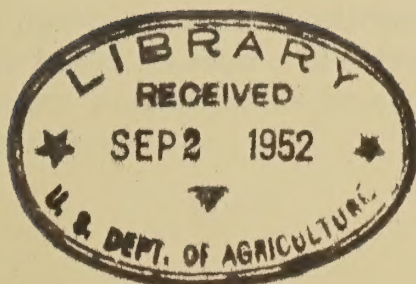


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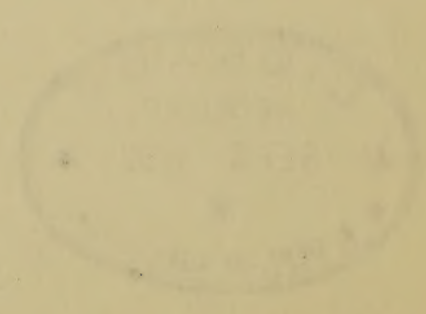
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A PLAN FOR CONTROLLING THE  
MANAGEMENT PROGRAM



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## MANAGEMENT PROGRAM CONTROL BOARD

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MANAGEMENT PROGRAM CONTROL PLAN  
FOR MANAGEMENT DIVISION //  
RURAL ELECTRIFICATION ADMINISTRATION.

FOREWORD

The plan for operations control proposed and described herein is the outgrowth of an extensive study of the REA program in general and of the functions and responsibilities of the Management Division in particular. The system is also in part the outgrowth of discussions with many people over a long period of time, and of considerable thought and deliberation with respect to various aspects and ramifications of this system. The authors have incorporated many features and ideas which have grown out of these discussions and deliberations, whenever such features have appeared to them appropriate and conducive to the comprehensiveness which they consider desirable and essential. This system is the result of their organized effort to arrive at the simplest way to maintain, with a minimum number of operations, a continuous, concise, and graphic record of and control over the activities and functions delegated to each section of Management Division.

PURPOSES AND ADVANTAGES

The purpose of this proposal is to provide a system for maintaining control over the Management Program in each section of Management Division, a system that will enable the internal management of each section to keep continuous and current record of the condition of each borrower, and to schedule, in order of importance, the assignments of field representatives in advising and assisting borrowers in correcting, improving, eliminating or forestalling unsatisfactory conditions as they relate to management.

This system is designed to carry out the responsibilities of each section as an integral part of the Management Division in the most efficient manner possible by a method which clearly shows what the problems are, states the facts involved, tells who has done what, what steps are still to be taken and by whom, and provides for the necessary follow-up. It is a method of arranging FACTS about the problems which each section has to handle in a clear, easily understandable form. The visible records described herein will provide a picture of the essential features concerning the condition of every borrower in each section. A signal is provided which continuously indicates the condition of each factor involved. Furthermore, all this information is contained and maintained on one board in a way that presents the over-all picture of all borrowers in the section. In other words, a clear, simple, continuous record is thus maintained in one centralized control mechanism, a record which displays in the most compact way the most essential information desired.

This plan would put the operations of all sections on a comparative basis as to standards of performance based on uniform work-load factors, since all sections



would then be operating with standard operating procedures of the utmost simplicity. In this way, also, every REA-financed borrower could be graded as to its financial, operational, and managerial performance on the basis of uniform factors of analysis. Furthermore, all reporting of whatever nature and for whatever purpose could be done on identical schedules by personnel occupying identical positions, since a basis would have been established for uniform job classifications in all sections.

Standardization of process and procedures of record-keeping and control among all sections is essential for Division control of section office activities and operations. It is believed that Division control could be better maintained and over-all supervision more readily facilitated by universal adoption of this plan. The standardization thus brought about would make possible much-needed long-term planning of the over-all management program by providing the necessary comparability of data and materials. In this way, also, the work of each section can be integrated and co-ordinated in terms of one division rather than ten semi-autonomous sections where the experience of one cannot be scientifically shared by all. We submit that the system we are proposing would, if adopted throughout the division, provide uniform channeling of facts and data and permit the production of each section to be evaluated in terms of work-load and output per man-day.

An additional merit of this system lies in the fact that it could be used to maintain continuous appraisal of the various factors, ratios, and percentages now in use (or to be established) for evaluating the financial conditions of the borrowers and forecasting future operations. The validity of such factors cannot be determined except by some easy and simple method of keeping the actual figures tabulated chronologically by section and by borrower.

It is not the purpose of this board to furnish an automatic analysis of any borrower's operations or management. This would be impossible. In the first place, no one factor by itself can be the basis of analysis or general evaluation. This board simply serves to collect and assemble all pertinent data relative to the various factors which must be considered collectively before any valid analysis can be made and to furnish documentation upon which each individual factor is graded.

The system herein described is not intended as a final product or as perfect in the form herein presented. It is mainly presented as a device and a general system subject to modification and alteration. Such modification, however, can only be made from experience gained from the actual application of this system. Many of the evaluations presented are more or less arbitrary, as they cannot fail to be in such a preparatory stage. Any evaluation will necessarily be more or less arbitrary and academic until subjected to the test of experience and application.



## SUMMARY OF PROPOSED PLAN

In essence, the plan consists of the following control devices:

- (1) The Section Program Control Board--is a control device (specifically described below) which presents a current picture of the financial, operational, and managerial condition of each borrower as rated by specific factors listed on the board. Figure 1 is a photograph of such a board as we originally set it up.
- (2) The Work-Load File--will consist of a box of 5X8 cards on which will be recorded individual assignments of jobs which will have to be performed in the course of time. Each one of these assignments will be rated as to length of time which it normally should require for completion. This rating will be done in accordance with a table of man-days, worked out on the basis of experience, for the various types of jobs which are performed by management field representatives and to which they are normally assigned. Each type of job will also be evaluated in order of priority of importance in accordance with the priority rating system maintained on the Section Program Control Board. For example, if the job to be done in connection with a borrower which has a weighted age of more than 36 months and is not making debt service, this job will take precedence over an assignment in connection with a one which does not have a two-way radio.
- (3) The Field Assignment File--will establish a record of and control over the assignments of the field representatives to their various duties in the field at individual borrowers and elsewhere, and will serve as control of their schedules. It is composed of five Acme visible file boards, one for the Assistant Section Head and one for each of the field representatives and each board will consist of 31 pockets corresponding to the thirty-one days in the month which will contain assignment cards covering the monthly period, showing where the individual field representative will be during the month and stating the jobs to which he has been assigned for that period of time. These cards are brought from the Work-Load File as the Section receives the Field Representatives Itinerary Report, Form CO-43, showing the borrowers which the field representative will visit and the jobs he will perform.

To recapitulate--These control devices intermesh in the following manner: The Section Program Control Board shows continuously and currently the over-all condition of each borrower and the factors which need to be corrected or improved. On this basis assignment cards are made to take care of such matters in their order of importance and placed in suspense in the Work-Load File. As the time



arrives for these jobs to be performed by the individual field representative, the card is removed from the Work-Load File and placed in his Field Assignment File in the pockets corresponding to the days during which it is anticipated that he will handle the assignment. Figure 2 illustrates the interrelationship of these controls. Each one of these devices will be more fully described in turn.

(4) The Office Manager's Rating Control Calendar--will be maintained by the office manager for the purpose of scheduling the re-evaluation of all factors in accordance with an established time-table. The frequency and periodicity of evaluation of the factors has been indicated for each of the factors on the Control Board.

(5) Subsidiary Graphs--will be maintained on the following items:

Maintenance, Operations, and General Administrative Expenses as percentages of investment, average KWH consumption per consumer, revenue per consumer and per mile, and average power cost per KWH. These graphs will serve as the medium for evaluating these factors on the Control Board and as a visible picture of these conditions and their trends.

### SECTION PROGRAM CONTROL BOARD

This board consists of a top section of certain headings indicating respectively system data and specific factors evaluating financial, operational, and management performance, and a main section consisting of card pockets, one for each borrower in the section.

The borrowers are listed on the vertical axis and are grouped by states. Each group of states composes a separate segment on the board so that the columns may be numbered at the top of each of these sections as they are at the top of the board, thus making it easy to identify the factors which have been evaluated for each borrower.

Each one of the pockets (of which there is one for each borrower) will hold a card which is divided into columns to correspond with the headings at the top of the board. These cards will be superimposed one upon another and will overlap in such a way that only the bottom one-third inch of each card will be visible. The undisplayed portion will be used to enter citations and references to reports and files containing detailed information on the basis of which the evaluations are made, and any other pertinent information. Each factor will be color-coded in the visible space on the card in the column corresponding to the factor described in the heading of that column. The four following color codes will be generally used:



- |              |  |
|--------------|--|
| (1) "RED"    | To signalize "Unsatisfactory Condition"                                    |
| (2) "YELLOW" | "Condition bordering on unsatisfactory or requiring constant surveillance" |
| (3) "BLUE"   | "Condition satisfactory - may require attention"                           |
| (4) "GREEN"  | "Condition satisfactory - not requiring attention"                         |

These evaluations will be specifically described for each individual factor. Each color symbol is numbered as in parentheses above (or otherwise symbolized) so that a black-and-white photograph can be utilized for purposes of reporting, record-keeping, and for the information of field personnel. There is a final portion of the board which does not carry any permanent headings or titles which is available for current use in classifying borrowers in any special ways which from time to time may prove desirable or necessary, e.g., those having made wage determinations, or those of which a complete managerial analysis has been made. The assembled file is illustrated in Figure No. 1.

Certain particularly critical factors, such as "Times Standard Debt Service Earned", "Quality of Consumer Service", and "Payment of Debt Service" will be printed in RED in the column headings indicating that they are factors of major importance and for the purpose of determining priority of assignments. For example, whenever a red signal appears in one of these columns for any borrower, this will be given first priority in making field assignments. Factors of secondary importance will be printed in yellow and will thus indicate secondary priority. Therefore, the order of priority will be as follows:

- FIRST PRIORITY : RED Signal under a RED Factor
- SECOND PRIORITY: RED Signal under a YELLOW Factor
- THIRD PRIORITY : YELLOW Signal under a RED Factor
- FOURTH PRIORITY: YELLOW Signal under a YELLOW Factor

Beyond this, assignments will be controlled by availability of personnel and relative importance of remaining factors.

After having established the workload to be associated with the correction, improvement, or elimination of any given condition, evaluated in terms of man-days, a basis will have been established for assigning field personnel to the total field workload on a priority basis. If the total workload is greater than the number of man-days available on the basis of personnel on hand or obtainable, that work which has been rated of first importance will be assigned first and so on in descending order of importance of the work to be done.

Thus, the work which is assigned will be that part of the total workload which has been evaluated as most important and that part which is left unassigned will be that which has been evaluated as relatively less important. Among other things, then, this system will show the amount of work which is to be done, the amount which can be done, and the amount which will be done and will indicate the amount which must be left undone. It is at once the basis for assignment of the workload and the follow-up on the extent of accomplishment of assignments.



The content and significance of each factor is given below, together with the source of information required, the frequency of re-evaluation, and the method for evaluating each factor:

## SECTION ONE: SYSTEM DATA

### (1) SYSTEM

The bottom line of each card (the portion which is visible when all cards are assembled on the Board) will show the system designation, e.g.:

"1 KANABEC"

In the undisplayed portion of the column under the flap will be entered the corporate name of the borrower and date of its incorporation. A color tab may be placed beside the system designation to further classify borrowers as desirable, e.g., borrowers who generate their own power or a portion thereof, borrowers who are members of G & T cooperatives, borrowers who operate in more than one state, etc.

### (2) HEADQUARTERS

The bottom visible line will contain the name of the town where the headquarters is located. The undisplayed portion of this column will be devoted to such information as the street address, city, state, etc.

### (3) MANAGER

The visible portion will show the name of the manager. On the undisplayed portion will be recorded the date employed, date approved for probationary period, date of permanent approval by administrator, and salary. If the manager is on probation the name of the manager will be printed on a yellow card, and when given permanent approval the name will be printed on white paper. This color coding will indicate the status of the manager's employment.

### (4) FIELD REPRESENTATIVE RESPONSIBLE

This column provides a space for entering each field representative's designation by number alongside the name of the borrower for which he is responsible.

### (5) MILES OF LINE - ACTUAL

Quarterly, the section analyst will compare the actual number of miles of line as given in the operating report with that anticipated in the latest feasibility study. The actual miles of line will be entered in this column on the undisplayed portion under the flap, and the operating report from which this information is obtained will be cited here. The visible portion will be color-coded as follows:



- |              |  |
|--------------|--|
| (1) "RED"    | Actual miles less than 80% of the feasibility estimate   |
| (2) "YELLOW" | Actual miles between 80% and 90% of feasibility  |
| (4) "GREEN"  | Actual miles 90% to 100% of feasibility estimate   |
| (5) "WHITE"  | No basis for comparison (insufficient time has elapsed for construction of lines for which loan was made). |

(6) MILES OF LINE - FEASIBILITY

Quarterly, the section analyst will enter in the visible space the number of miles of line estimated in the latest feasibility study, on the basis of which the above comparison was made.

(7) MILES OF LINE - ULTIMATE

In this column will be shown the ultimate miles of line which will be contained in the system when fully developed, as estimated by Applications and Loans Division.

(8) NUMBER OF CONSUMERS - ACTUAL

Quarterly, the section analyst will compare the actual number of consumers as given in the operating report with the estimated number of consumers given in the latest feasibility study. The actual number will be entered on the undisplayed portion under the flap, and the operating report from which this information was obtained will be cited here. The visible portion will be color coded as follows:

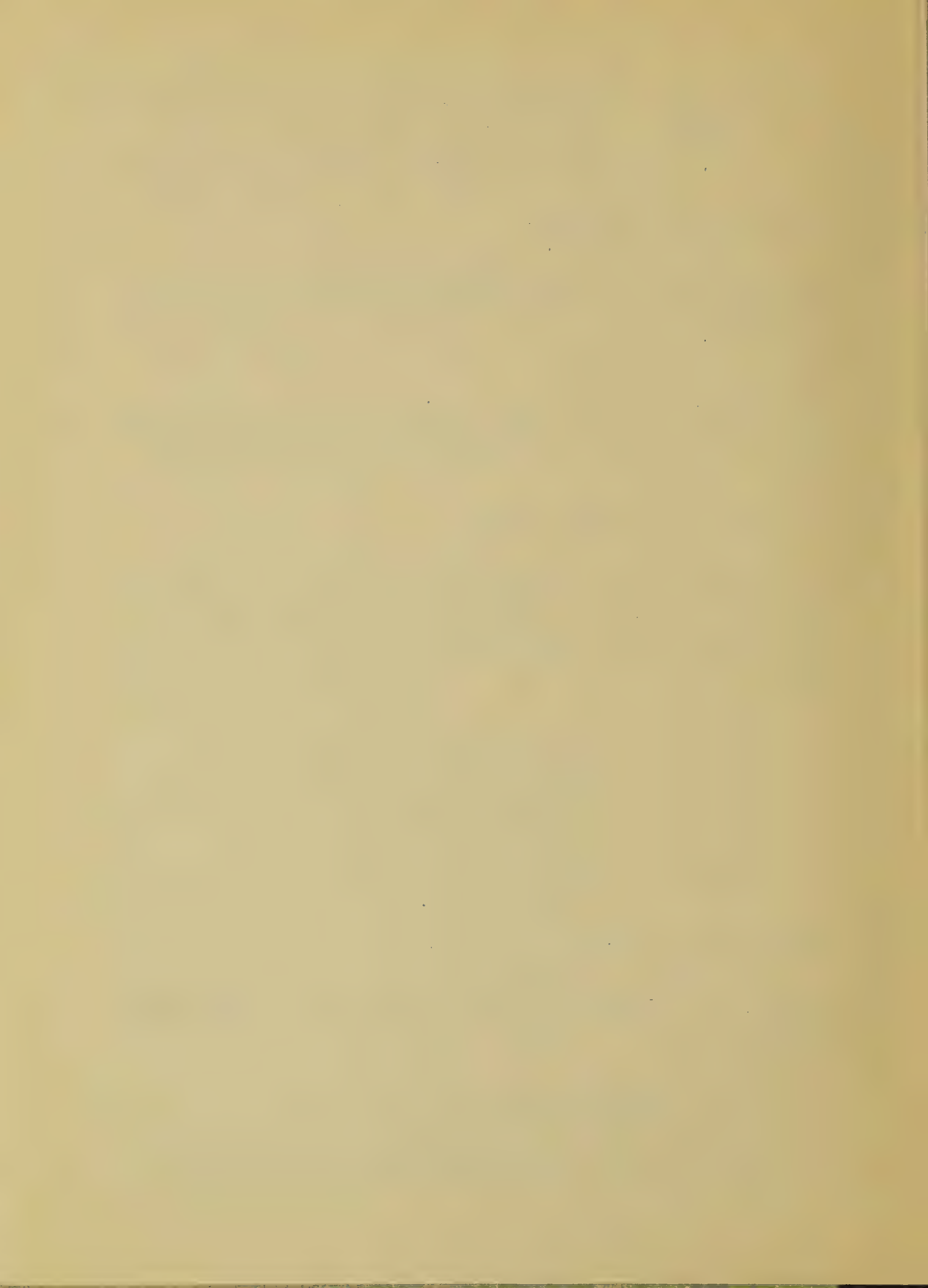
- |              |  |
|--------------|--|
| (1) "RED"    | Actual number of consumers less than 80% of feasibility estimate             |
| (2) "YELLOW" | Actual number of consumers between 80% and 90% of feasibility estimate       |
| (4) "GREEN"  | Actual number of consumers 90% to 100% of feasibility estimate               |
| (5) "WHITE"  | No basis for comparison (insufficient time has elapsed to connect consumers) |

(9) NUMBER OF CONSUMERS - FEASIBILITY

Quarterly, the section analyst will enter in the visible space the number of consumers estimated in the latest feasibility study, on the basis of which the above comparison was made.

(10) NUMBER OF CONSUMERS - ULTIMATE

In this column will be shown the ultimate number of consumers which will be contained in the system when fully developed, as estimated by Applications and Loans Division.



### (11) WEIGHTED AGE

The weighted age is computed by dividing cumulative mile-months (the sum of cumulative miles of energized lines for each month since initial energization) by total number of miles energized. The weighted age may be obtained from the quarterly "Times Standard Debt Service Report" supplied by the Statistical Section; this age will be entered quarterly in this column on the visible line and the date of the report from which this information is obtained will be entered under the flap, as well as the month when the system attained the weighted age which appears on the visible portion. The significance of the weighted age of the energized lines of the borrower lies in the fact that the ability of a borrower to make payments to principal and interest depends in a large part on the length of time that its lines have been energized, that is, revenue-producing, due to the fact that consumers generally increase their consumption as they become older consumers. At any given time the total number of lines energized will not have been energized at the same time, some having been in operation and revenue-producing for only a short period of time, others for a longer period. This fact is recognized by the policy of granting three to five years of grace before having the payments to principal and interest become due and payable. The greater the weighted age of the lines of the borrower the better the position it should be in to pay out the government loan. The significance of the weighted age is greater in the first few years.

### (12) HEADQUARTERS FACILITIES - OWNED

### (13) HEADQUARTERS FACILITIES - RENTED

Headquarters facilities, whether owned or rented will be rated as either:

- |             |            |
|-------------|------------|
| (1) "RED"   | Inadequate |
| (4) "GREEN" | Adequate   |

Data under the flap will include "date approved by the Administrator"; if owned, the capitalized amount; if rented, the rental.

This information will be supplied from time to time by the fieldmen as a result of field appraisals.

### (14) WHOLESALE POWER - SOURCE

To be coded as to supplier:

- (2) "YELLOW": REA-financed cooperative
- (3) "BLUE" : Private Utility
- (4) "GREEN"(only): Generates all of its own  
Combination of above: Generates some of its own and buys balance from other source(s).



The name of the supplier will be entered under the flap.

(15) CAPITAL CREDITS (RED FACTOR) - ADOPTED

- |             |   |
|-------------|---|
| (1) "RED"   | Borrower has not adopted the Capital Credits Plan                           |
| (4) "GREEN" | Borrower has taken the necessary legal action to adopt Capital Credits Plan |

(16) CAPITAL CREDITS (RED FACTOR) - STATUS

For those borrowers who have adopted the Capital Credits Plan this column will indicate the status of the borrowers' action in regard to the establishment of such credits upon its records. Under the flap will be recorded the date action was taken and source of information. The color coding will be as follows:

- |              |  |
|--------------|--|
| (1) "RED"    | Borrower has adopted the Capital Credits Plan but has taken no action to establish the re-<br>cords or assign such credits to its patrons  |
| (2) "YELLOW" | Borrower has established the basic records, but has made no assignments to its patrons   |
| (3) "BLUE"   | Borrower has established basic records and has made assignments to consumers for some years, but has not kept same on a current basis, and books do not show assignments for most recent years |
| (4) "GREEN"  | Borrower has established all necessary records and made proper assignments to patrons on a current basis   |

(17) TWO-WAY RADIO

Color Code:

- |              |  |
|--------------|--|
| (1) "RED"    | Signifies borrower does not possess TWR                  |
| (2) "YELLOW" | Signifies possession of TWR, but some inadequacy of same |
| (4) "GREEN"  | Signifies possession of adequate TWR                     |

SECTION TWO - FINANCIAL PERFORMANCE

(20) NET WORTH AS A PERCENT OF ASSETS

Net worth is the difference between the assets and liabilities. This item is to be used for the report which must be made by Management Division to Engineering Division of all borrowers having a net worth which is less than 5% of assets (per Administrative Policy Bulletin No. 14-R1) by listing all borrowers having red, yellow, and blue signals.



- |                 |   |
|-----------------|---|
| (1) "RED"       | Indicates borrowers having weighted age of 36 months or more running a deficit, that is whose liabilities exceed their assets |
| (2) "YELLOW"    | Indicates borrowers having weighted age from 0 to 36 months running a deficit   |
| (3) "BLUE"      | Indicates borrowers whose net worth is from 1% to 5% of assets  |
| (4) "GREEN"     | Indicates borrowers whose net worth is greater than 5% of assets  |
| Uncoded (white) | Unenergized borrowers   |

The information to be used in making the above evaluations is obtained from a report submitted quarterly by the Statistical Services Section. The amount of net worth is based on the accrual system of accounting as provided for in the Uniform System of Accounts. The net worth is the sum of figures shown in columns A-27, A-46, A-47, and A-48 of the Operating Report. The actual percentage shall be entered under the flap. This factor will be rated quarterly upon receipt of the Net Worth Report.

#### (21) CURRENT MARGIN AS A PERCENTAGE OF ASSETS

The current margin shows the net result of operations for the current accounting period and indicates the financial position for that period resulting from that period's operations.

Color Code:

- |              |  |
|--------------|--|
| (1) "RED"    | Any system having weighted age of 36 months or more having a current deficit |
| (2) "YELLOW" | Any system having weighted age of 0 to 36 months which has current deficit   |
| (3) "BLUE"   | Any system having a margin up to 2% of assets                                |
| (4) "GREEN"  | Any system having a margin which is 2% of assets or greater                  |
| UNCODED      | Any unenergized system   |

This factor will be rated semi-annually.

#### (22) INVESTMENT OF GENERAL FUNDS IN PLANT

The significance of this factor lies in the fact that the rate structure is not designed to provide funds to build plant, but to take care of necessary expenses, replacement, and debt service. Therefore, any general funds invested in plant may be a potential jeopardy to the government loan, since funds intended to take care of necessary expenses and expenditures have been used for another purpose. Besides REA as the financing agent loses control over plant construction to the extent general funds in plant are thus invested.



## EVALUATION

In view of the responsibility delegated to the Management Division with respect to the use of borrowers' general funds (per Administrative Policy Bulletin No. 6-R1), it is necessary that an appraisal be made of the investment of general funds in plant to determine to what extent such investment conforms with the provisions laid down in Policy Bulletin No. 6-R1, and and to determine whether and to what extent such investment impairs the government security or represents excessive charges made to present consumers to finance plant, bearing in mind that if the same amount of money were borrowed from the government, it would have to be repaid with interest. In making this determination, consideration shall be given to such appropriate financial factors as debt service requirements forecast and cash requirements forecast. A specific procedure for making this evaluation will have to await directions from the Performance Standards Section.

In the meantime, on a practical basis, this factor will have to be evaluated by a section field and office analysis of the adequacy of general funds and prospective additions thereto from projected revenues, together with the demands for such funds for projected operating expenses, replacement, and debt service. To the extent that such funds appear to be in excess of such demands, and a determination has been made that such investment is as economically sound (and in accordance with cooperative principles) as establishing a cushion of credit and borrowing from the government such sums for investment, this factor will be rated as satisfactory, all of which presupposes that the investment is sound to begin with.

### Color Code:

- |              |   |
|--------------|---|
| (1) "RED"    | Funds invested in plant have jeopardized the government's security  |
| (2) "YELLOW" | Funds invested in plant while not sufficient to jeopardize security, should be reimbursed from loan funds |
| (4) "GREEN"  | No investment, or investment satisfactory   |

### (23) TIMES STANDARD DEBT SERVICE EARNED (RED FACTOR)

This factor is important because it shows to what extent borrower is earning sufficient revenue over and above operating expenses to pay out interest and principal on the government loan. Standard debt service may be defined as "the normal amount required to amortize principal and interest on the typical 35-year loan for any given year". Standard debt service "is



figured at the rate of (approximately) \$42.00 per year per \$1,000.00 of the determined basic investment" (in accordance with "General Instructions for Preparation of Forms CO-133 and CO-134").

Color Code:

- |              |   |
|--------------|---|
| (1) "RED"    | Any system having weighted age of 36 months or more which is earning debt service less than one time.   |
| (2) "YELLOW" | Any system having weighted age of over 36 months and making debt service from one to one and one-half times or under 36 months and not making debt service one time |
| (3) "BLUE"   | Any system earning from one to one and one-half times debt service under 36 months.   |
| (4) "GREEN"  | Any system earning more than one and one-half times debt service  |
| "UNCODED"    | Unenergized systems   |

This factor may be evaluated quarterly from the quarterly report (TSDS) prepared by Statistical Services Section.

(24) POWER COST - AVERAGE POWER COST PER KWH

It is the responsibility of the Management Division in accordance with Administrative Policy Bulletin No. 33 to consult with the Power Division when called upon to do so with reference to the effect that wholesale rates will have upon the retail rates and revenues of the borrowers. Furthermore, this item of expense being one of the main operating expenses of a borrower, it comes under the general purview of the Management Division as laid down in Administrative Policy Bulletin No. 53 as follows: "The Management Division is responsible for all management activities of distribution type borrowers."

This average cost is computed by dividing the total power bill by total KWH purchased, Line G 18 of the operating report. The Power Division submits a statement to the Applications and Loans Division of the estimated power cost/KWH, which is used in the feasibility study. Semiannually, the section analyst will determine the average power cost/KWH over the six months period and code this factor as follows:

- |             |   |
|-------------|---|
| (1) "RED"   | Average power cost/KWH 10% greater than average power cost anticipated in the feasibility study |
| (4) "GREEN" | Average power cost/KWH within 10% of that anticipated in the feasibility study                  |

A subsidiary graph will be maintained on "average power cost per kwh". A horizontal line will extend across the graph which will represent the average power cost/KWH used in the latest feasibility study. A second line will be maintained quarterly of the actual power cost per KWH per quarter.



(25) POWER COST - POWER FACTOR

In cases where borrowers' contracts include a power factor charge on KVA metered or which include any sort of power factor clause, the power cost/KWH will reflect the power factor because the bill from the supplier would be smaller for a given load with a better power factor.

Color Code:

- |             |   |
|-------------|---|
| (1) "RED"   | Power factor is such that the borrower is unable to take advantage of the lowest rates provided for in the power contract.                              |
| (4) "GREEN" | The borrower's power factor is sufficiently great to permit the borrower to take advantage of the lowest rates as far as the power factor is concerned. |

A quarterly "system power factor" may be developed for those systems where there is a separate power factor shown on the bill(s) for each delivery point. It is simply a matter of arriving at a weighted average of the individual power factors as follows:

- (1) Multiply the energy delivered (metered) at each delivery point by the power factor for that load area as shown on each month's power bill, and add these amounts together.
- (2) Divide the result obtained in step (1) by the total energy metered at all the delivery points. The result obtained will be the monthly "system power factor."
- (3) Add the three monthly "system power factors" as obtained by the above process, and divide by three to get the quarterly average "system power factor." This operation can be performed at the end of each quarter.

(26) POWER COST - "KWH UNACCOUNTED FOR" AS A PERCENTAGE OF KWH PURCHASED

Line G-21 of operating report shows the difference between KWH purchased and KWH sold. This loss, commonly referred to as line loss, is the result of several factors: various power losses of one kind or another, design of the system, size of transformers installed, poorly cleared or uncleared Right-of-Way, and broken insulators. This energy loss is important from a management standpoint. To the extent that these items can be controlled by improving or correcting these factors, the overall power cost required to serve the connected load can be reduced.

Color Code:

- |             |                            |
|-------------|----------------------------|
| (1) "RED"   | Line loss greater than 20% |
| (4) "GREEN" | Line loss 20% or under     |



This factor is rated quarterly by computing the average line loss for three months.

(27) POWER COST - LOAD FACTOR

The American Standards Association defines "load factor" as "the ratio of the average load over a designated period to the peak load occurring in that period". The significance of this factor lies in the fact that an improved load factor would mean a lower unit cost for power (power cost per kwh sold) because more energy would then be bought by the borrower without significantly increasing the demand charge. In other words, by improving the load factor, the borrower will be buying more power at a lower unit cost, while at the same time increasing his revenue.

A quarterly load factor will be determined in the following manner:

- (1) Each time the operating report is received, the peak demand will be entered thereon as shown on the power bill.
- (2) Determine quarterly the borrower's average load over the three month period by adding the total energy (kwh) sold for each of the three months to get the total energy sold during the quarter and dividing this sum by 2190 hours ( $1/4$  of the total number of hours in a year).
- (3) Determine average peak load for the quarter by adding the three peak loads (which he has recorded each month on the operating report) and dividing the result by 3.
- (4) Divide the result obtained in step (1) above by the result obtained in step (2). This gives an approximate average load factor.

A graph of the load factor will be maintained quarterly by the section analyst. The vertical axis will indicate percentages with a horizontal line extending across the graph indicating 100%. The horizontal axis will indicate years, divided into quarters. The analyst will plot the current load factor and connect this point with that of the preceding quarter. The graph will show the trend of the load factor indicating whether the load factor is increasing, decreasing, or remaining constant.

Color Code:

- |             |  |
|-------------|--|
| (1) "RED"   | Any system having a load factor below 40% at any delivery or metering point, or a quarterly average load factor below 40%.                 |
| (2) "GREEN" | Any system having a load factor of 40% or above at each delivery or metering point, and the average quarterly load factor is 40% or above. |

In cases where there is more than one delivery point, and a separate bill is rendered for each delivery point, a "system load factor" will be determined in the following manner:



- (1) Each time the operating report is received, the peak demands at the various delivery points as shown on the power bills will be entered on the margin of the operating report in Section G.
- (2) The total energy sold during the quarter will be determined by adding the total energy sold for each of the three months; as shown on Line G-20 of the operating report.
- (3) The quarterly average peak demand at each delivery point will be determined by adding the last months' peak demand at that point and divide the sum by three.
- (4) Each one of these average peak demands will be multiplied by 2190 hours and the resulting products will be added together.
- (5) The total energy sold during the quarter (shown in step 2) will be divided by the result obtained in step 4; thus giving a "system load factor."

Thus:

$$\frac{KWH_1 + KWH_2 + KWH_3}{KW_1 + KW_2 + \dots KW_n} \times 2190$$

Where KWH is the total energy sold during each of the 3 months and KW is the individual peak demand at each delivery point.

### FEASIBILITY FACTORS

The following items (Factor 28 through Factor 44) are evaluated in part with reference to feasibility estimates. This has not been done out of a slavish devotion to these estimates nor with any intent of forcing these amounts to stay within the norms established, nor with any implication that any particular item should do so as long as expenses are reasonable and justifiable, and all expenditures, long-term replacement, and debt service are covered by revenues. It is recognized that expenditures greater or less than feasibility estimates can be satisfactory, and that certain expenditures larger than feasibility estimates can be offset by other expenditures which over the loan period prove to be less than the amount included in the feasibility study. The relative importance of each item can only be evaluated in conjunction with all other items of this type included in the feasibility study. The overall level of these expenditures is important insofar as they relate to the revenue as estimated in the feasibility study. In essence, the feasibility study is thus being used as a standard of comparison, because any changes therefrom must be compensated for by deviations in other items. Unless such compensations exist or can be brought



about through improved management, such as an increased level of revenue, the security of the loan is impaired by any substantial departure from feasibility estimates, and the financial and operational success of the borrower endangered.

(28) DISTRIBUTION EXPENSE - OPERATIONS - AS A PERCENT OF INVESTMENT

This cost is significant as one component part of the overall financial operations. In accordance with Administrative Bulletin No. 75, the feasibility of the loan is determined in part on the basis that the expenditures for "operations" (tree-trimming, patrolling, fusing, changing and testing meters, etc.) will be an amount equivalent to 1% of the distribution plant cost. The extent to which this expenditure approximates this amount furnishes the basis for evaluating this factor. This factor will be evaluated annually in accordance with the time table maintained in the Office Managers' control calendar.

Color Code:

- |             |   |
|-------------|---|
| (1) "RED"   | Distribution expense - operations - less than 9/10 of 1% of distribution plant cost or greater than 1 1/10% of distribution plant cost. (In other words, a variance of more than ten percent above or below the norm established in the feasibility study.) |
| (4) "GREEN" | Distribution expense - operations - is from 9/10 of 1% of distribution plant cost to 1 1/10% of distribution plant cost.  |

(29) DISTRIBUTION EXPENSE - OPERATIONS - TREND

The trend of this expense is of interest to management, because while the expense may currently be "out of line" with the norm, it may be approaching a satisfactory magnitude, or conversely, while currently approximating the norm, the trend may be away from the norm.

Color Code:

- |             |                       |
|-------------|-----------------------|
| (1) "RED"   | Trend away from norm  |
| (4) "GREEN" | Trend toward the norm |

A graph will be maintained in conjunction with this factor as a visual aid which will portray the operations expense as a percentage of distribution plant cost and also show the trend toward or away from the norm or the fluctuations around the norm, on an annual basis. The years will extend across the horizontal axis and the vertical axis will give percentages. A permanent line will extend horizontally across the graph at 1% as an indication of the norm.



(30) DISTRIBUTION EXPENSE - OPERATIONS

(To be coded according to a "performance standard" when developed.)

(31) DISTRIBUTION EXPENSE - MAINTENANCE AS A PERCENT OF INVESTMENT

This cost is significant as another component part of the overall financial operations. In accordance with Administrative Bulletin No. 75, the feasibility of the loan is determined in part on the basis that the expenditures for "maintenance" will be an amount equivalent to 1% of the distribution plant cost. The extent to which this expenditure approximates this amount furnishes the basis for evaluating this factor. This factor will be evaluated annually.

Color Code:

- |             |  |
|-------------|--|
| (1) "RED"   | Distribution expense - maintenance - less than 9/10 of 1% of distribution plant cost or greater than 1 1/10% of distribution plant cost. (In other words, a variance of more than ten percent above or below the norm established in the feasibility study.) |
| (4) "GREEN" | Distribution expense - maintenance - is from 9/10 of 1% of distribution plant cost to 1 1/10% of distribution plant cost.  |

(32) DISTRIBUTION EXPENSE - MAINTENANCE - TREND

The trend of this expense is of interest to management, because while the expense may currently be "out of line" with the norm, it may be approaching a satisfactory magnitude, or conversely, while currently approximating the norm, the trend may be away from the norm.

Color Code:

- |             |                       |
|-------------|-----------------------|
| (1) "RED"   | Trend away from norm  |
| (4) "GREEN" | Trend toward the norm |

A graph will be maintained in conjunction with this factor as a visual aid which will portray the operations expense as a percentage of distribution plant cost and also show the trend toward or away from the norm or the fluctuations around the norm, on an annual basis. The years will extend across the horizontal axis and the vertical axis will show percentages. A permanent line will extend horizontally across the graph at 1% as an indication of the norm.

(33) DISTRIBUTION EXPENSE - MAINTENANCE

(To be coded according to a "performance standard" when developed) In any thorough analysis, the preceding six factors (factors 26 through 31) should always be taken in conjunction with physical maintenance and operation program, in



order to determine whether sufficient physical returns are being realized from the monetary outlays for these purposes.)

(34) GENERAL ADMINISTRATIVE EXPENSE - AS PERCENT OF INVESTMENT

In making feasibility studies, it is assumed that 2% of estimated cost of physical plant will be and/or should be expended annually on the average for general administrative expenses. As in the two foregoing cases, this would only represent an approximation at any one time, particularly so in the construction period; however, since this item is one of the important components which determine the current and long-run financial condition of the borrower, it is necessary to keep currently informed as to its condition and tendency in conjunction with all other such determinants. The extent to which this expenditure approximates 2% of distribution plant cost furnishes the basis for the evaluation of this factor. This factor will be evaluated annually in accordance with the time-table maintained in the Office Manager's Control Calendar.

Color Code:

- |             |   |
|-------------|---|
| (1) "RED"   | General administrative expense - less than $1 \frac{9}{10}\%$ of distribution plant cost or greater than $2 \frac{1}{10}\%$ of distribution plant cost. (In other words, a variance of more than ten percent above or below the norm established in the feasibility study.) |
| (4) "GREEN" | Distribution expense - general administrative expenses - is from $\frac{9}{10}$ of 1% of distribution plant cost to $1 \frac{1}{10}\%$ of distribution plant cost.  |

(35) GENERAL ADMINISTRATIVE EXPENSES - TREND

The trend of this expense is of interest to management, because while the expense may currently be "out of line" with the norm, it may be approaching a satisfactory magnitude, or conversely, while currently approximating the norm, the trend may be away from the norm.

Color Code:

- |             |                       |
|-------------|-----------------------|
| (1) "RED"   | Trend away from norm  |
| (4) "GREEN" | Trend toward the norm |
| "UNCODED"   | Constant trend        |

A graph will be maintained in conjunction with this factor as a visual aid which will portray the operations expense as a percentage of distribution plant cost and also show the trend toward or away from the norm or the fluctuations around the norm, on an annual basis. The years will extend across the horizontal axis and the vertical axis will show percentages. A permanent line will extend horizontally across the graph at 1% as an indication of the norm.



(36) GENERAL ADMINISTRATIVE EXPENSES

(To be coded according to a "performance standard" when developed.)

(37) TAXES

In preparing the feasibility study, a certain tax expense was anticipated. Consequently, it is important to know to what extent this particular cost approximates the estimate.

Color Code:

- |             |                                    |
|-------------|------------------------------------|
| (1) "RED"   | Not in line with feasibility study |
| (4) "GREEN" | In line with feasibility study     |

Under the flap, the amount anticipated in the feasibility study will be entered.

(38) INSURANCE

In preparing the feasibility study, a certain insurance expense was anticipated. Consequently, it is important to know to what extent this particular cost approximates the estimate.

Color Code:

- |             |                                    |
|-------------|------------------------------------|
| (1) "RED"   | Not in line with feasibility study |
| (4) "GREEN" | In line with feasibility study     |

Under the flap, the amount anticipated in the feasibility study will be entered.

(39) REVENUE PER CONSUMER - ACTUAL

The feasibility study on the basis of which loans are made gives a "required monthly revenue per member". When loans are made in part on the basis of an estimated expenditure, then it is incumbent upon management analysts to compare such estimated revenue with the actual to determine whether the estimated revenues were reasonably accurate, and if so, to see if the realized revenues are in line with the estimate. It is recognized that revenue-per-consumer as shown on the feasibility study is an estimated average over the full loan period; therefore, the actual revenue-per-consumer during the early life of the loan will tend to be lower than it will be during the latter part of the loan period. Consideration is given to this point in the evaluation coding below, which is done on a weighted age basis. Since this item is one of the important components which determine the current and long-run financial condition of the borrower, it is necessary to keep currently informed as to its condition and tendency in conjunction with all other such determinants.

It is further recognized that an overall "revenue-per-consumer" average is composed of revenues realized from several types of consumers, farm, non-farm residents,



commercial, etc., each of which must be examined in turn when making a thorough analysis of revenues.

The actual average monthly revenue-per-consumer will be determined in the following manner:

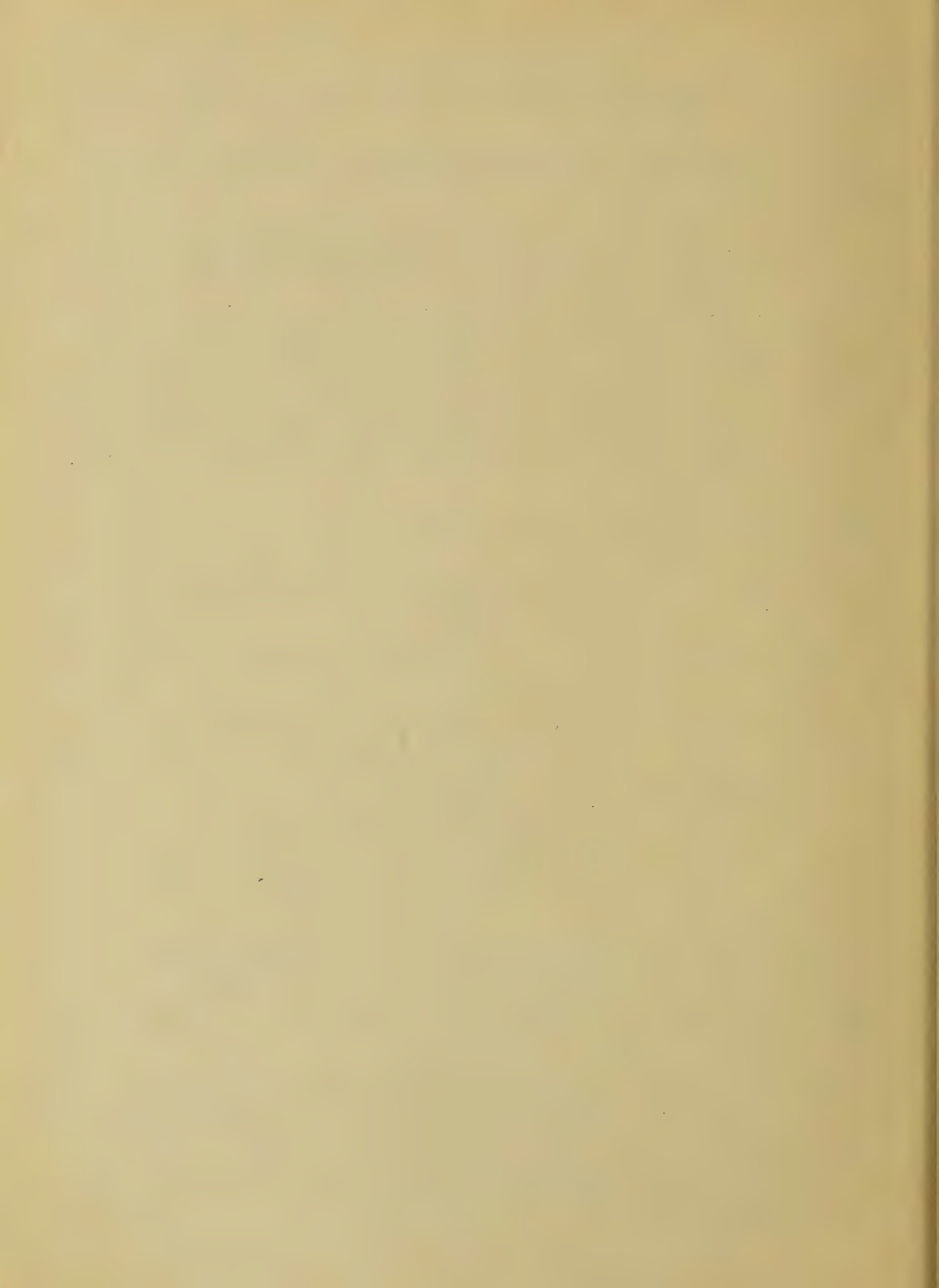
- (1) Add the total revenue for all classes of consumers for each month during the 12-month period, line 10E, ADM 29C, under column "Amount Billed", and divide this amount by 12, to obtain the average total revenue per month.
- (2) Add total number of consumers billed for each of the 12 months, line 10E, ADM 29C, under column "Consumers Billed" and divide by 12, to obtain the average number of consumers billed per month.
- (3) Divide the average total revenue per month, obtained in step (1) by the average number of consumers billed per month, obtained in step (2). This gives the actual average monthly revenue per consumer for the year.

This factor will be evaluated annually and coded as follows:

- |              |   |
|--------------|---|
| (1) "RED"    | System has a weighted age of 36 months or more, but its revenue-per-consumer is less than 90% of feasibility estimate.  |
| (2) "YELLOW" | System has a weighted age of less than 36 months but its revenue-per-consumer is less than 90% of feasibility estimate.   |
| (3) "BLUE"   | System has a weighted age of 60 months or more and a revenue-per-consumer which is between 90% and 100% of feasibility estimate.  |
| (4) "GREEN"  | System's weighted age is 60 months or more and revenue-per-consumer is 100% or more of feasibility estimate, or its weighted age is less than 60 months and its revenue-per-consumer is between 90% and 100% of feasibility estimate. |

The actual average monthly revenue-per-consumer will be computed at the end of each fiscal year in accordance with the time-table maintained in the Office Manager's Control Calendar and will be entered on the undisplayed portion of the column, and the visible portion will be color-coded at that time.

A graph will be maintained in conjunction with this factor which will portray the actual average monthly revenue-per-consumer and show the trend toward or away from the feasibility estimate on an annual basis. The horizontal axis will represent time in years and the vertical axis will represent average monthly revenue-per-consumer. A permanent line will extend horizontally across the graph indicating the "required monthly revenue per member" as shown in the latest feasibility study.



#### (40) REVENUE PER CONSUMER - FEASIBILITY

Whenever a feasibility study is received from the Application and Loans Division, the estimated revenue-per-consumer will be entered in the visible portion of this column.

#### (41) AVERAGE MONTHLY REVENUE-PER-MILE - ACTUAL

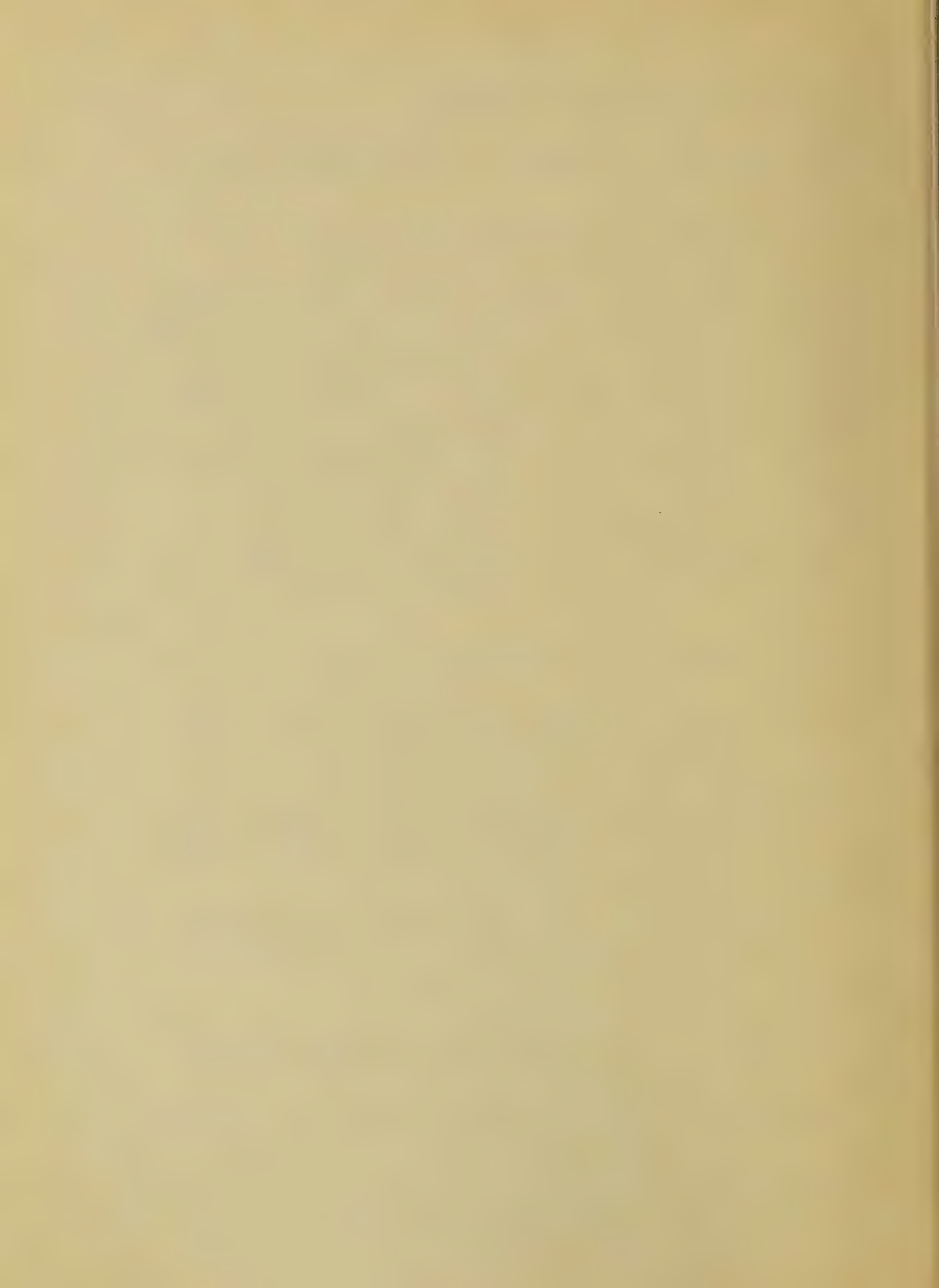
The feasibility study on the basis of which loans are made gives a "required monthly revenue per mile." This, then, is another possible standard of comparison which can be used as one criterion for measuring and evaluating financial performance. The same rationale which pertains to revenue-per-consumer applies here to revenue-per-mile. It is recognized that revenue-per-mile as shown on the feasibility study is an estimated average over the full loan period; therefore, the actual revenue-per-mile during the early life of the loan will tend to be lower than it will be during the latter part of the loan period. Consideration is given to this point in the evaluation coding below, which is done on a weighted age basis. Since this item is one of the important components which determine the current and long-run financial condition of the borrower, it is necessary to keep currently informed as to its condition and tendency in conjunction with all other such determinants.

The actual average monthly revenue-per-mile will be obtained as follows:

- (1) Add the total revenue received each month as shown on Line 10E of the monthly operating report (ADM 29C) for each of the twelve months during the period, and divide this sum by 12 to obtain the average monthly revenue for the 12-month period.
- (2) Add the amounts shown on Line 29G of the monthly operating report (ADM 29C) for each of the twelve months during the period and divide this sum by 12 to obtain the average number of miles energized during the 12-month period.
- (3) Divide the average monthly revenue obtained in step (1) by the average number of lines energized, step (2). This gives the actual average monthly revenue-per-mile for the 12-month period.

This factor will be evaluated annually and coded as follows:

- |              |  |
|--------------|--|
| (1) "RED"    | System's weighted age is 36 months or more but the revenue-per-mile is less than 90% of feasibility estimate.        |
| (2) "YELLOW" | System's weighted age is less than 36 months but the revenue-per-mile is less than 90% of feasibility estimate.      |
| (3) "BLUE"   | System's weighted age is 60 months or more and the revenue-per-mile is between 90% and 100% of feasibility estimate. |



- (4) "GREEN"      System's weighted age is 60 months or more and the revenue-per-mile is 100% or more of feasibility study, or its weighted age is less than 60 months and the revenue-per-mile is between 90% and 100% of feasibility estimate.

The actual average monthly revenue-per-mile will be computed at the end of each fiscal year in accordance with the Office Manager's Control Calendar, and will be entered in the undisplayed portion. The visible portion will be color-coded at the same time.

A graph will be maintained in conjunction with this factor which will portray the actual average monthly revenue-per-mile and show the trend toward or away from the feasibility estimate on an annual basis. The horizontal axis will represent time in years and the vertical axis will represent average monthly revenue-per-mile. A permanent line will extend horizontally across the graph indicating the "required monthly revenue per member" as shown on the latest feasibility study.

#### (42) REVENUE-PER-MILE - FEASIBILITY

Whenever a feasibility study is made and received from Applications and Loans Division, the estimated revenue-per-mile will be entered in the visible portion of this column.

#### (43) AVERAGE KWH CONSUMPTION PER CONSUMER - ACTUAL

According the Administrative Bulletin No. 37, the Management Division is responsible for "advising A & L of borrowers with low kwh consumption - when indicated by Management studies." The determination of the adequacy of the kwh consumption shall be made by comparing annually the actual kwh consumption per consumer as shown on the operating reports with the average kwh consumption per consumer anticipated in the feasibility study.

The actual annual kwh consumption per consumer will be computed as follows:

- (1) Add the total kwh sold, Line 10E, ADM 29C, on each of the twelve operating reports for the 12-month period to obtain the total annual kwh consumption.
- (2) Add the total number of "Consumers Billed", Line 10E, ADM 29C, on each of the twelve operating reports and divide this sum by 12 to obtain the average number of consumers billed for the 12-month period.
- (3) Divide the total annual kwh consumption obtained in step (1) by the average number of consumers billed, step (2). This gives the AVERAGE KWH CONSUMPTION PER CONSUMER - ACTUAL.

NOTE: The time when this operation shall be performed will be controlled by an appropriate entry on the Office Manager's Control Calendar



described in a later section of this manual.

This factor will be evaluated annually and coded as follows:

- |              |  |
|--------------|--|
| (1) "RED"    | System has a weighted age of 36 months or more, but its average kwh consumption per consumer is less than 90% of feasibility estimate.   |
| (2) "YELLOW" | System has a weighted age of less than 36 months but its average kwh consumption per consumer is less than 90% of feasibility estimate.  |
| (3) "BLUE"   | System has a weighted age of 60 months or more and an average kwh consumption per consumer which is between 90% and 100% of feasibility estimate.  |
| (4) "GREEN"  | System's weighted age is 60 months or more and average kwh consumption per consumer is 100% or more of feasibility estimate, or its weighted age is less than 60 months and its average kwh consumption is between 90% and 100% of feasibility estimate. |

Whenever this factor displays a red or yellow signal, a report should be sent to the Applications and Loans Division advising that the borrower has a low average kwh consumption per consumer.

This factor will be coded annually in accordance with the time-table maintained in the Office Manager's Control Calendar.

A graph will be maintained in conjunction with this factor which will portray the actual average annual kwh consumption per consumer and show the trend toward or away from the estimated average annual kwh consumption per consumer derived from the feasibility study - shown in the following factor. When the actual annual kwh consumption per consumer varies substantially from the amount shown for the following factor, it will be necessary to investigate the consumption of each of the classes of consumers, farm, non-farm, residential, commercial, etc.

#### (44) AVERAGE KWH CONSUMPTION PER CONSUMER - FEASIBILITY

Section D, Sheet # 2 of the Feasibility Study: "Estimated Annual Receipts", shows an estimated total annual kwh consumptions for all classes of consumers and also gives the estimated total number of consumers. For the purposes of informing the Applications and Loans Division of low kwh consumption, in conformity with Administrative Bulletin No. 37, and comparing the actual consumption with the latest feasibility estimate, the average annual kwh consumption per consumer will be derived from the Feasibility Study by dividing the estimated total kwh consumption by the estimated number of consumers shown in Section D. This figure will be entered on the visible portion in this column, and the Feasibility Study from which this figure is derived will be cited in the undisplayed portion under the flap. This will be done each time a new Feasibility Study is received.



#### (45) RETAIL RATES

The following factors have to be considered in order to evaluate the adequacy of the retail rate structure:

- (1) Power Cost (Factor 24 through 27)
- (2) Current Expenses:
  - a. Operations (Factors 28, 29, 30)
  - b. Maintenance (Factors 31, 32, 33)
  - c. General Administration (Factors 34, 35, 36)
  - d. Taxes (Factor 37)
- (3) Replacement (Factor 50)
- (4) Debt Service (Debt Service Graph)
- (5) KWH Consumption per Consumer (Factors 43, 44)
- (6) Number of Consumers (Factors 8, 9, 10)
- (7) Income Levels of Consumers (Program Analysis Section)

It has been demonstrated in studies made by the Bureau of Agricultural Economics in conjunction with state experiment stations in Georgia, Iowa, and Washington that the consumption of electricity varies directly with the income levels of consumers.
- (8) Elasticity of Demand (Program Analysis Section)

The retail rate structure is based on certain assumptions concerning necessary expenses and expenditures, estimated consumption, number of consumers, elasticity of demand, and competition.

Retail Rates are established to bring in sufficient revenues to cover all reasonable and normal expenses, plus 1% Long-Term Replacement of utility plant, and debt service. In establishing the feasibility of the loan, estimates of these items are made as follows in accordance with Administrative Policy Bulletin No. 75:

Operations	1% of estimated physical plant cost
Maintenance	1% of estimated physical plant cost
Replacement	1% of estimated physical plant cost
General Administration	2% of estimated physical plant cost
Debt Repayment and interest	4.1% of total loans *
Taxes	As determined
Insurance	As determined
Power Cost	As purchased or generated

\*Above percentage is for a 35 year loan with 5 year interest accumulation period. Necessary adjustments must be made for interest accumulation, Section 12 extensions, and variation in loan and accumulation periods.

It cannot be expected, however, that the borrowers' actual revenues as determined by the retail rates in conjunction with actual consumption patterns and actual expenses and expenditures will at any given time exactly cover these expenses and expenditures, leaving no surplus or deficit, because if the rate



structure has been correctly set up, there will necessarily be surpluses and deficits at different times during the life of the loan. For example, maintenance will not be so heavy at first, when the plant is new, while debt service is on an accrual basis during the first years and in a state of abeyance. Whenever a rate structure is set up or a study for a rate revision undertaken, A & L furnishes the rate specialist information as to additional loans which will be needed to finance additional plant construction to serve ultimate consumers anticipated. Thus, the rate specialist sets up a rate structure which will be sufficient to put the borrower on a pay-out basis over the long run.

The problem of determining the adequacy of a rate structure at any given time after the loan has been made, the lines energized, and the cooperative has actually gotten into an operating phase is the determination of what variations have taken place in any of the above factors from the feasibility estimates, and to what extent such variations can be averaged out over the life of the loan. An examination and analysis of each of the items listed above will have to be made as to its reasonableness and normality, and possibility of correction and improvement. Only after a determination has been made that all items of expense and expenditure are in line or cannot be further improved upon over a reasonable period of time, that kwh consumption per consumer cannot be built up, the number of consumers substantially increased, or that the income level of consumers is not rising, can it be assumed that a rate revision is necessary.

Consequently, no evaluation can be placed on this factor until a five or ten year forecast is made on the basis of projected revenues under the present rate structure, with a reasonable allowance for changes in consumption patterns, projected expenses, replacement, and debt service covering the period. If over this period of time the projected revenues do not cover the projected expenditures, it can be concluded that the retail rate structure is inadequate. If, on the other hand, projected revenues substantially exceed projected expenditures, including operations, maintenance, administration, replacement, and debt service, it can be concluded that a rate study should be made as to the desirability of a rate reduction.

Color Code:

- |             |  |
|-------------|--|
| (4) "GREEN" | A five or ten year projection of revenues and expenditures reveals a reasonable surplus. |
| (1) "RED"   | Forecast reveals a deficit or an excessive surplus.                                      |

UNCODED (WHITE) No forecast of projected revenues and expenditures has been made.



## SECTION III - OPERATIONAL PERFORMANCE

### (48) OPERATIONS PROGRAM

It is an important and necessary function of management to insure that proper and reasonable expenditures are made for operations of the system (tree-trimming, patrolling, fusing, changing and testing meters, etc.), neither too little, too late, or too much. Administrative Bulletin No. 11 states: "In representing the Government as mortgagee, and in the achievement of the purposes of the Rural Electrification Act of 1936, as amended, it is the responsibility of the REA to assure itself that the physical properties which serve as security for the loans are properly operated and maintained and to offer to its borrowers technical assistance in this connection. The Management Division is responsible for:

- a. Encouraging borrowers as a phase of general management to undertake and carry out an adequate program of technical operations and maintenance of their physical facilities, and to recommend that they use the specialized services of the Engineering or Power Divisions, as the case may be, in developing such programs in accordance with policy above.
- b. Assisting borrowers in making the cost of such activities an element in the budgetary plans, including revisions thereof, after consultation with the Engineering or Power Divisions concerning the budgeting of expense involved in these activities.
- c. Informing the Engineering or Power Divisions of any substantial differences between budgeted and actual expenditures for these activities, and the bearing of these differences on the borrower's general management in order that these Divisions may recommend corrective action where necessary.
- d. Advising the Engineering and Power Divisions of borrowers which, from a general management standpoint, are most in need of special assistance in these activities."

At the time of the review by Management Division of the borrower's annual operating budget, this factor will be evaluated and coded as follows:

#### Color Code:

- |              |  |
|--------------|--|
| (1) "RED"    | A deviation of 15% or more from the amount budgeted for the operations program; or, in any case, an inadequate program when advised of such by Engineering Division                  |
| (2) "YELLOW" | A deviation of 10% to 15% from the amount budgeted for the operations program  |
| (3) "GREEN"  | Actual expenditure for operations program is within 10% of amount budgeted, and Engineering Division has furnished no evidence of an inadequate physical operation of utility plant. |



The amount budgeted for the operations program will be entered in the undisplayed portion of this column underneath the flap.

(49) MAINTENANCE PROGRAM

Administrative Bulletin No. 11, quoted above under Factor 48, Operations Program, also covers the responsibility of Management Division with reference to the Maintenance Program. The physical Maintenance Program will be similarly evaluated and coded, in accordance with the time-table maintained in the Office Manager's Control Calendar. (At the time of the review of the borrower's annual operating budget.)

Color Code:

- |              |  |
|--------------|--|
| (1) "RED"    | A deviation of 15% or more from the amount budgeted for the Maintenance Program, or, in any case an inadequate program when advised of such by the Engineering Division. |
| (2) "YELLOW" | A deviation of 10% to 15% from the amount budgeted for the Maintenance Program.  |
| (3) "GREEN"  | Actual expenditure for Maintenance Program within 10% of amount budgeted and Engineering Division has furnished no evidence of an inadequate physical maintenance.       |

(50) REPLACEMENT PROGRAM

It is the responsibility of the Management Division to render "assistance to borrowers with reference to the handling and disposition of general and operating funds." Part of this responsibility is to insure that sufficient funds are provided for replacement in accordance with Administrative Policy Bulletin No. 9, and used in replacing retired units of property.

Color Code:

- |             |   |
|-------------|---|
| (1) "RED"   | Borrower has not set up funds, or is not making sufficient revenue, in which case a note to this effect will be entered under the flap. |
| (4) "GREEN" | Adequate replacement program, funds have been set up for this purpose.  |

Source of information: Field appraisals.

The above coding will be brought up-to-date whenever a change occurs as indicated in the field appraisals. (These various factors will be useful in



evaluating the adequacy of field appraisals by checking whether all necessary, pertinent, and essential conditions and factors are being appraised and reported upon).

#### (51) QUALITY OF CONSUMER SERVICE (RED FACTOR)

The purpose of an electrical cooperative is to furnish electrical service at cost (plus repayment of debt) on a continuous and adequate basis. A cooperative which does not provide quality (continuous and adequate) service cannot expect to pay out the government loan or to fulfill the purposes of the REA Act. It is a prime responsibility of cooperative management to insure that quality service is provided to consumers, and the Management Division of REA "is responsible for all management activities of distribution-type borrowers." (Administrative Bulletin No. 53).

In line with this program, it is the responsibility of the Management Division to maintain field checks by reviewing operating records as to voltage regulation, continuity of service and number of outages, and to see that necessary records are being maintained in this connection.

Source of information: Examination of borrower's operating records and appraisals by field personnel and/or reports from Engineering Division. A man should be assigned to make a study semi-annually of all cooperatives with respect to this condition on the basis of which this factor should be rated as follows:

- |              |   |
|--------------|---|
| (1) "RED"    | System does not have the necessary records and/or is not giving quality service.  |
| (2) "YELLOW" | System has adequate plant for giving quality service and records for ascertaining the quality of service being given, but is not doing anything about it. |
| (4) "GREEN"  | System has necessary records and is giving quality service (continuous service with adequate voltage).  |

#### (52) MAINTENANCE OF GENERAL PLANT (OFFICE EQUIPMENT)

The maintenance of general plant and equipment is a function of good management of a cooperative, and the appraisal of such maintenance logically falls within the purview of the Management Division in assisting and advising distribution-type cooperative on their management activities (#53), and particularly with reference to provision for necessary funds for such maintenance in the operating budget and the proper expenditure of such funds (Administrative Policy Bulletin No. 9).



Color Code:

- |             |   |
|-------------|---|
| (1) "RED"   | Inadequate maintenance and/or no provision in operating budget.                 |
| (4) "GREEN" | Adequate provision made in operating budget and proper expenditures being made. |

Source of information: Field personnel will be assigned to evaluate the adequacy of the maintenance of general plant, and this factor shall be re-evaluated whenever a change is reported from the field.

#### SECTION IV - MANAGEMENT PERFORMANCE

All factors listed in this section will be included on a form to be called "Field Representative's Rating Sheet on Management Performance." This report will be sent in periodically for all borrowers and the various factors on the Management Program Control Board under the "Management Performance Section" will be coded in conformance with this report, together with any additional information which may be available in the home office. This report will be cited under the flap as the basis for this coding and for any other pertinent information which it may contain as to the management performance of the particular cooperative rated. This report will contain the following questions and items to be answered and/or commented upon in making the evaluation of the various factors.

#### (55) MANAGER'S CAPABILITY AND PERFORMANCE

Whenever a new manager goes on a cooperative, a field representative will be sent to make a managerial appraisal of the cooperative by means of the "Field Representative's Rating Sheet of Management Performance;" at the end of three months a field representative will make another such appraisal, and again at the end of six months, at which time the field representative will make a recommendation as to whether the manager should be approved for permanent appointment). This factor will be evaluated on the basis of the following questions and items:

##### (1) Education:

High School	No. of Years _____	Year Graduated _____
College	No. of Yrs. attended _____	Degree(s) _____ Year _____
		_____ Year _____

State courses pursued in the following fields:

Public or human relations \_\_\_\_\_  
Psychology \_\_\_\_\_  
Sociology \_\_\_\_\_  
Accounting \_\_\_\_\_  
Economics \_\_\_\_\_  
Law (Business, other) \_\_\_\_\_



Organization and Management \_\_\_\_\_

Statistics \_\_\_\_\_

Industrial Production and Management \_\_\_\_\_

Public Administration \_\_\_\_\_

(2) Membership in organizations:

Professional, honorary, fraternal, or other such societies to which manager or intern belongs \_\_\_\_\_

(3) Experience:

Supervisory (Specify position, salary, employer, and dates of employment)

(4) Management

Electrical Industry

Cooperatives

Government

Group Leadership (Boy Scouts, campus activities, lodges, etc.)

(5) Remarks and other pertinent information:

Color Code:

(1) "RED"                      Inadequate

(4) "GREEN"                  Adequate

(56) CONSUMER EDUCATION AND PUBLIC RELATIONS

(1) Does the cooperative have an informed participating membership?

(2) What was the total attendance at the last Annual Meeting; what was this attendance as a percentage of total membership?

(3) Does the management regularly send out a newsletter?

(4) Are consumers satisfied with operations and services? (This question may be answered in part on the basis of opinions gathered from board members and others gathered by the representative while visiting the co-op but may have to be further evaluated and/or corrected in the sectional office on the basis of letters received from members.)

Color Code:

(1) "RED"                      Inadequate

(4) "GREEN"                  Adequate

(57) PERSONNEL STAFFING

(1) Does the system have an organizational chart?

(2) Does it have adequate personnel to perform all functions?

(3) Is any nepotism present?



Color Code:

- |             |            |
|-------------|------------|
| (1) "RED"   | Inadequate |
| (4) "GREEN" | Adequate   |

(58) EMPLOYEE TRAINING AND PERFORMANCE

- (1) Is there a job description for every position?
- (2) Is there an internal training and improvement program?

Color Code:

- |             |            |
|-------------|------------|
| (1) "RED"   | Inadequate |
| (4) "GREEN" | Adequate   |

(59) EMPLOYMENT POLICY

- (1) Does the co-op have an employment policy in regard to safety and training, wages and hours, vacation and retirement, etc?
- (2) Is it adequate?
- (3) Does it adhere to it?

Color Code:

- |              |   |
|--------------|---|
| (1) "RED"    | Borrower does not have policy and its labor relations very bad. |
| (2) "YELLOW" | Has a policy, but not adequate, or labor relationships bad      |
| (3) "BLUE"   | Has an adequate policy, but not adequately adhering thereto     |
| (4) "GREEN"  | Has an adequate policy and are adhering thereto                 |

(60) BOARD PERFORMANCE

- (1) Is the board representative of the membership?
- (2) Does the board, as a whole or individually, interfere with the manager's responsibility and performance?
- (3) Does it work well together as a group? (Presence of factions?)
- (4) Do all members of the board participate actively in the discharge of their responsibilities?
- (5) Does the board maintain interest and participation in related assignments such as the Statewide and the National?
- (6) Extent of rotation in office.
- (7) Do the minutes present adequate coverage of board meetings and actions?
- (8) Does board formulate policies that are operative?



Color Code:

- |             |            |
|-------------|------------|
| (1) "RED"   | Inadequate |
| (4) "GREEN" | Adequate   |

(61) OPERATING BUDGET

- (1) Is one prepared?
- (2) Is it adequate and reasonable?
- (3) Is the co-op using it?
- (4) Is there an adequate process for improving deficiencies in the budget?

Color Code:

- |             |            |
|-------------|------------|
| (1) "RED"   | Inadequate |
| (4) "GREEN" | Adequate   |

(62) MANAGER'S REPORT TO THE BOARD

- (1) Does he make one?
- (2) Is it complete and representative of the operation?
- (3) Is manager taking extraordinary actions without reporting same to the board? (e.g., unusual contracts, expenditures, commitments, agreements, special problems).
- (4) Is the report a clear, concise, orderly summary of actions and operations, or is it rambling, verbose, ambiguous, incomplete?
- (5) Reception by the board: to what extent has the board assimilated its contents, acted upon them, and approved or disapproved actions, operations, and proposals reported therein?

Color Code:

- |             |            |
|-------------|------------|
| (1) "RED"   | Inadequate |
| (4) "GREEN" | Adequate   |

(63) PAYMENT OF DEBT SERVICE (RED ITEM)

- (1) Is the co-op putting aside the necessary reserves to Account 114.1 in accordance with Administrative Bulletin No. 9?
- (2) Is the co-op maintaining a Debt Service Graph?

Color Code:

- |             |                 |
|-------------|-----------------|
| (1) "RED"   | Delinquent      |
| (4) "GREEN" | Current         |
| UNCODED     | In grace period |



(64) INSURANCE

- (1) Does the co-op carry adequate insurance in accordance with Administrative Bulletins Nos. 25 and 26?

Color Code:

- |             |     |
|-------------|-----|
| (1) "RED"   | No  |
| (4) "GREEN" | Yes |

(65) CONSUMER DELINQUENCIES

- (1) Is there an adequate policy governing billing and collecting?  
(2) Does the co-op adhere to the policy?  
(3) Does the co-op maintain adequate reserves for Uncollectible Accounts in accordance with the Uniform System of Accounting?

Color Code:

- |             |  |
|-------------|--|
| (1) "RED"   | Delinquencies of more than 30 days are greater than provision for Uncollectible Accounts in Uniform System of Accounts |
| (4) "GREEN" | Delinquencies do not exceed said provision   |

(66) ESTABLISHMENT OF GENERAL FUND RESERVES (as indicated in Administrative policy Bulletin No. 9)

Administrative Policy Bulletin No. 9 provides that, "at the end of each month the General and Operating Funds Accounts (120.1, 122.0) should be adjusted to provide . . . funds for the following month, and reserves for future needs. . ."

- (1) Has the system been adjusting its accounts and providing the reserves as required in this bulletin?

Color Code:

- |             |                          |
|-------------|--------------------------|
| (1) "RED"   | No                       |
| (4) "GREEN" | Yes                      |
| UNCODED     | System not yet energized |

(67) OPERATING REPORTS

The borrower is required under the terms of his loan contract to submit such financial and other operating reports and such other documents as the Administrator may require.



- (1) Is the operating report being prepared in accordance with the "instructions for the Preparation of the Monthly Financial and Statistical Report?"

Color Code:

- |              |  |
|--------------|--|
| (1) "RED"    | No   |
| (2) "YELLOW" | Delinquent or deficient as to quality, accuracy and reliability. |
| (4) "GREEN"  | Yes  |

This factor will be evaluated by the sectional analyst, and it will be the responsibility of the field man to correct any deficiencies in the preparing or submitting of this report.

SUBSIDIARY GRAPHS

Graphs will be maintained of the actual maintenance, operation, and administrative expenses as percentages of investment (classified and unclassified electric plant in service - B 65 and B 69 of Balance Sheet, "Monthly Financial and Statistical Report.") These graphs will be used as subsidiary controls corresponding to these factors found on columns 28, 31 and 34 of the Sectional Program Control Board. The vertical axes will be graduated for percentages from 0% to 3.5% and the horizontal axes will be divided into four quarters a year for ten years. Each one of these percentages will be entered by the sectional analyst each quarter for each system from the operating report. The citations in parentheses refer to the number of the item on the operating report. The following are the graphs which are to be maintained:

- Distribution Expenses - Operations (D 9): As percent of Investment
- Distribution Expenses - Maintenance (D 10): As percent of Investment
- General Administrative Expenses (D 11 through D 16 plus D 19 through D 22): As percent of Investment
- KWH Consumption per Consumer (Calculated from information on quarterly operating report.)
- Revenue per Consumer (Calculated from information on quarterly operating report.)
- Average Power Cost per KWH (Calculated from information on quarterly operating report.)

OFFICE MANAGER'S CONTROL CALENDAR

The sources of the information necessary to rate and evaluate the factors described above has been indicated in each case, as well as the periodicity of their receipt. It should be the express responsibility of the office manager to keep a control schedule over the receipt and utilization of the various sources of information, periodic reports, and other continuous or occasional data necessary to maintaining control over the rating and evaluation of the factors on the Control Board.



Eventually it is envisioned that as any condition on a cooperative becomes unsatisfactory, the appropriate factor on the control board will display a red signal almost automatically which will tell the office personnel immediately that here is a matter to be taken cognizance of, evaluated with reference to other associated factors, and acted upon. Thus, the outcome of the installation of this system will not be the sending of a man to a system for the purpose of collecting data to be assembled on the control board, but, contrariwise, the board will give us the proper information necessary to send a man to a system to help correct an unsatisfactory condition indicated on the board. In other words, to the extent that time and personnel permit, all vital and pertinent information will flow onto this visible file through the channels described in the body of this section, in the most summary form. The board will both control the work and be controlled by the work. It is a semi-automatic device which will not work us but will be worked by us. Thus, it is an expeditious, orderly, and thoroughgoing way of appraising cooperatives by providing as much information as possible about the condition of every cooperative as a basis not only for giving maximum advice and assistance, but also for controlling the workload of all field personnel through the **WORKLOAD FILE** described below and **FIELD ITINERARY - ASSIGNMENT FILE** (described on page 3).

### WORKLOAD FILE

The Workload File consists of Job Assignment Cards (5 x 8), one for each task which is to be performed in the field by the field personnel. These job cards will be serially numbered. The following is an illustration of one of these job cards:

System: _____	No. _____
Statement of Condition: _____	
Task to be Performed: _____	
Comments: _____	
Date Assigned: _____	
Assignee: _____	
Borrower Designation _____	Estimated Man Hours Required _____
% Completed 25 50 75 100 Date Completed _____	

(The various tasks and categories of tasks, as well as the man days estimated to complete these tasks will be established by consultation and agreement among the management personnel in the sectional office. (Sectional Head, Assistant Sectional Head, and Office Manager.)



Procedure for Maintaining Workload File:

- (1) Office manager prepares Job Assignment Cards in triplicate on basis of information displayed on Control Board.
- (2) Office manager puts original Job Assignment Card in proper place in Work Load File.
- (3) One copy sent to Assistant Section Head
- (4) Third copy sent to appropriate field representative.
- (5) The time when the field representative will visit borrower to perform assignment will be governed by the following considerations:
  - a. Priority of importance of assignment as established on the Control Board.
  - b. Necessity for reducing travel time and expense to a minimum, i.e., minimizing time and distance of travel.
  - c. Ability of individual field representative adequately to handle assignment within the time available.

Taking all of the above factors into account, the field representative will prepare his monthly itinerary each month in advance on Form CO-43, Monthly Itinerary Report, indicating thereon the borrowers to be visited and the expected dates of such visits, and he will enter the serial number of the appropriate Job Assignment Card under the portion describing the reason for the visits. This field itinerary will be prepared in quadruplicate, the original and one copy to be forwarded to the Sectional Office, one to the Assistant Section Head, one being retained by the field representative.

When the field representative's itinerary is received in the Section Office, the corresponding copies of the Job Assignment Cards, the serial numbers of which appear on the Itinerary Report will be withdrawn from the Workload (suspense) File and placed in the appropriate pockets of the Field Representative's Field Assignment File.

Any of the date-pockets may contain as many assignment cards as there are assignments to be performed at that borrower during that particular visit. In this manner, the field representative will know at all times the work to be performed for the borrowers within his assigned area, the Section Office will know where the field representative is expected to be and for what purpose, and the Assistant Section Head will be currently advised regarding the assignments of all field personnel. Whenever the field representative discovers reasons for going to a system for which Job Assignment Cards have not been prepared, he should prepare a Job Assignment Card, forwarding one copy to the Assistant Section Head and one to the Section Office. Likewise, the Assistant Section Head will prepare Assignment Cards whenever the occasion arises.



## Duties and Responsibilities of the Assistant Section Head

The handling of all field activities within the scope and framework just described will come under the purview of the Assistant Section Head. He will be responsible for over-all supervision of the field representatives in the performance of their assignments.

Whenever he receives a Job Assignment Card for a task which in his opinion is not necessary, he can recall it, giving reasons. He also exercises control over the performance of all field work to see that all tasks are adequately performed and that proper advice and assistance is given to the borrower. In the final analysis, he is responsible to see that the field representatives actually get the work done and done right.

## SUMMARY

It cannot be overemphasized that the end purpose of the system herein proposed is not merely the maintenance of all kinds of data on a board per se nor is it anticipated that a great deal of time will be expended in maintaining such data at the expense of accomplishing more pressing and urgent matters or to the exclusion of the regular and proper functions of the sectional office. On the contrary, it is a way of gradually gathering together all the important and essential information relative to the over-all condition of all the cooperatives as it concerns the Management Division. Instead of leaving to chance whether all the factors determining the condition of the cooperative are taken into account, identified, and evaluated by all persons concerned, it provides a way of keeping a record of all such factors tabulated and evaluated in a clear, concise, and readily understandable fashion.

Nor is it anticipated that this system will be installed full-blown, or that many extra hours will be devoted to the installation of such a project, but that little by little the pertinent data will be added to the evergrowing picture of the operations involved in the responsibilities of Management Division. This system will go into effect only by degrees.

However, as the picture becomes clearer and more complete, it will more and more serve as a basis for determining what work needs to be done, why it needs to be done, how much work is involved, how long such work should take, who should do such work and when they should do it.

It is also emphasized that this system is intended to be flexible and not rigid in its form and execution. It is adaptable to varying situations and subject to revision in the light of experience.

The Control Board has the merit of presenting in one place a continuous and current collection of all the most important factors necessary to judge the condition of each and every cooperative, schedule the assignment of all field work in order of relative importance, and provide a picture of the



workload of the section at any given time. Each of the factors contained on the board must be construed in the light of other qualifying factors revealed on the board. This enables one to get a balanced rather than a distorted picture of any cooperative. Such perspective is necessary to any adequate program of evaluation, advice and assistance.





